REMARKS

This paper is in response to the Office Action mailed on January 11, 2007. Claims 1-3, 5, 7-14, 16-23, 25-26, 28-30 and 32-46 are pending in the case. While the Applicants have not amended the claims, the claims are reproduced herein for the convenience of the Examiner. The Office Action states that claims 1-46 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Publication No. 2004/0165888 to Gerstel et al. ("Gerstel").

Initially, Applicants note that the Office Action fails to address its rejections to claims 17, 37, and 41.

Independent claims 1, 12, 45-46 are rejected for the reasons set forth on page 2 of the Office Action. Independent claim 23 is rejected for the reasons set forth on page 5 of the Office Action. Independent claims 28 and 29 are rejected for the reasons set forth on 28 and 29 of the Office Action.

Independent claims 1, 12, 45 and 46 each recite "the test signal is sent from each of the start node apparatus and the end node apparatus of said transmission line **to a center node apparatus**." Independent claim 23 recites "a terminal node . . . wherein said terminal node is each of a start node and an end node of said transmission line" and "folding back the test signal to the terminal node in **a center node** that has received this test signal." Independent claim 28 recites the following limitations:

> sending out a test signal from each of a start node and an end node of said transmission line to a **node located in the center** of a working system path (current path) after switching said working system path to an auxiliary system path (stand-by path) in response to occurrence of a fault;

> folding back the test signal to each of said start node and said end node in the **node located in the center** of said working system path that has received the test signal;
>
> **identifying the fault location based on the determination result** by determining the signal quality of the test signal folded back at each of said start node and said end node and
>
> **releasing the nodes outside a fault interval in said working system path** to set up the other path, if there is any fault detected in either said start node or said end node during the operation of the identifying step. (Emphasis added).

Claim 29 has the same above recited limitations as claim 28 except for the first paragraph shown above, which instead recites, "sending out the determination result to each of said start node and said end node by determining the signal quality of the test signal in the node located **in the center of** said working system path that has received the test signal."

The Office Action ignored the arguments made in Applicant's Response of October 25, 2006 directed towards these recitations. Applicants urge that the arguments be considered so that Applicants receive the full and fair hearing to which it is entitled (see M.P.E.P. §706.07). Because the arguments were not considered, the Applicants hereby re-assert the arguments made in the October Response, which is incorporated by reference in its entirety herein. Nonetheless, for the Examiner's convenience, the substance of these arguments are re-presented below.

First, Gerstel has no teaching or suggestion for sending out a test signal from each of a start node and an end node of a transmission line to a center node or **a node located in the center of a working system path**. At best, Gerstel shows a start node and an end node sending a test signal to any one of a number of intermediate optical

add/drop MUXs, as described at paragraph 0031, recounted above. Claims 23, 28 and 29 each recite that a center node receives a test signal from a start and end node.

Moreover, even if these optical add/drop MUXs were center nodes, which they are not, there is still no teaching or suggestion for releasing the nodes outside a fault interval in said working system path to set up the other path if there is any fault detected in either said start node or said end node during the operation of the identifying step. Claims 28 and 29 clearly recite identifying the fault location based on the determination result based on the quality of the test signal folded back at each of said start node and said end node and then releasing nodes outside the fault interval. While Gerstel has some general language with respect to isolating and localizing network faults (e.g., with respect to the eastbound traffic in FIG. 7, "It is to be appreciated that a loopback switch may also be included in OLT 80, optical add/drop multiplexer 84 and OLT 90 to further isolate where a problem exists in the network"), the disclosure does not teach or suggest any method for identifying or localizing faults so as to release nodes outside the fault interval to be used in an operable network path. For the reasons outlined above, Applicants urge that independent claims 1, 12, 23, 28, 29, 45 and 46 are each allowable over Gerstel, and urge reconsideration and withdrawal of the rejections thereto.

The Office Action rejects independent claim 25 for the reasons set forth on page 6 of the Office Action. Independent claim 25 recites the following limitations: "sending out a test signal from a terminal node . . . sending out the determination result **to said terminal node . . . in a node that has received the test signal** . . . identifying the fault location based on the determination result **in said terminal node that has received the determination result**; and sending out the test signal **from the node having sent out the determination result** to said working system path if no fault is

detected during the operation of the identifying step." For the reasons set forth in Applicants' Amendment and Response dated October 25, 2006 ("the October Response"), the entirety of which is incorporated by reference herein, nothing in Gerstel teaches or suggests these limitations.

In its response to the Applicants' arguments at pages 8-9, the Office Action again argues that paragraph 29 as well the steps described in Figure 5 and paragraph 30 of Gerstel teach the above-referenced limitations. In particular, the Office Action argues that Gerstel:

> …clearly discloses that at step S118 a determination is made if there is error in the received test signal, and if so an alarm notification is sent to the local management controller (*e.g.*, same as 'sending out the determination result to said terminal node'). Gerstel further discloses in paragraph 0029 of page 2, for determine the location of fault (*e.g.*, same as 'identifying the fault location based on the determination result') and step S114 discloses for transmitting the test signal (*e.g.*, same as 'sending out the test signal from the node having sending out the determination result').

First, the Office Action argues that transmission of a test signal in step S114 is "the same as 'sending out the test signal from the node having sending out the determination result.'" Applicants respectfully disagree. At paragraph 30 of Gerstel, it is clear that step S114 simply discloses that "the transponders are turned on and start transmitting a test signal, and at step S116 the transponders receive the test signal from the source." Then, as admitted by the Office Action, Gerstel shows that at step S118 a determination is made if there is an error in the received signal, at which point an alarm notification is sent to a local management controller. Clearly, the sending of the test signal in S114 is not related to the determination in step S118 as this step has not even been executed yet.

In stark contrast to the teachings in Gerstel, claim 25 recites "sending out the determination result **to said terminal node . . . in a node that has received the test signal**" and then later, "sending out the test signal **from the node having sent out the determination result** to said working system path if there is no fault detected during the operation of the identifying step." Quite simply, while step S114 arguably shows that an initial test signal is sent out from transponders, it in no way teaches or suggests sending out a test signal **"from a node having sent out a determination result,"** much less sending out the test signal "if there is no fault detected during the operation of the identifying step." Thus, nothing in Gerstel teaches or suggests the claimed testing regimen that starts with sending out a test signal from a terminal node to another node that returns a determination result and culminates with sending out the test signal from the node having sent out the determination result if no fault is detected during the operation of an identifying step. Accordingly, Applicants urge that independent claim 25 is in condition for allowance and urge reconsideration and withdrawal of the rejection thereto.

Claims 36 and 40 are rejected for the reasons set forth on page 2 of the Office Action. However, new claims 36 and 40 recite "said test signal sending component notifies the determination result of said determination device to said another network node apparatus, and if no fault is identified, transmits the test signal to **a next network node apparatus** after notifying said determination result." As with independent claim 25, nothing in Gerstel, including paragraphs 29 through 31, shows sending a test signal from a node that sent out a determination result to a next network node if no fault is identified. Thus, for the reasons set forth with respect to claim 25, claims 36 and 40 are in condition for allowance as well and Applicants urge reconsideration and withdrawal of the rejections thereto.

For the reasons outlined above, Applicants urge that independent claims 1, 12, 23, 25, 28, 29, 36, 40, 45 and 46 are each allowable over Gerstel, and urge reconsideration and withdrawal of the rejections thereto. All the remaining pending claims ultimately depend from these independent claims, and each of these dependent claims include additional limitations which, in combination with the limitations of claims from which they depend, are neither taught or suggestion in the prior art of record. Accordingly, Applicants urge that claims 1-3, 5, 7-14, 16-23, 25-26, 28-30 and 32-46 are presently in condition for allowance and respectfully request reconsideration and withdrawal of the rejections thereto.

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

No fee is believed to be due for this Amendment. Should any fees be required, please charge such fees to Deposit Account No. 50-2215.

Dated: April 3, 2007

Respectfully submitted,

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